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EXAMINER

MELSON, CANDICE C

ART UNIT

PAPER NUMBER

3732

DATE MAILED: 07/15/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/936,169

Applicant(s)

BJORN ET AL.

Examiner

Candice C. Melson

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 September 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5 and 7-13 is/are rejected.
- 7) ☒ Claim(s) 6 and 14-17 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 December 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other: _____

DETAILED ACTION

Drawings

The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: "relief angle γ ". A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 1-6,8-17 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 recites the limitation "the remaining threadpart" in lines 15-16 and 23. There is insufficient antecedent basis for this limitation in the claim.

Claim 4 recites the limitation "the point angle" in line 1. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-5, and 7-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Beaty et al (USPN 5,727,943) in view of Wagner et al (USPN 5,897,319). Beaty et al disclose “referring first to FIGS. 1-3, a dental implant has an externally threaded, substantially cylindrical main body 12 symmetrical around longitudinal axis A-A of the implant “ (column 2, lines 59-62). “Each thread segment extends between a pair of adjacent recesses and diminishes in radius between the leading and trailing ends of the thread segment” (see Abstract) “The bottom end 21 of the implant 10 has four axially elongated recesses or cut-outs 22, 24, 26 and 28, spaced symmetrically 90 degrees apart around the longitudinal axis of the implant 10. These four recesses form four cutting edges 32, 34, 36 and 38 which are effective to self-tap the implant 10 into the pre-drilled bore 19 when the implant 10 is turned counterclockwise around the longitudinal axis as viewed in FIG. 4. As seen most clearly in the enlarged FIG. 4, the cutting edges 32, 34, 36, and 38 are well within the circular locus 40 of the main body 12 so that the threads on the main body following the self-tapping threads into the bore 19 will engage in the side wall of the bore 19 and thereby prevent wobbling of the implant 10 as it is screwed into the patient’s jaw bone J” (column 3, lines 9-24). Furthermore, “to reduce rubbing friction between segments 52-58 and the jaw bone J, the major and minor radial dimensions of each of these segments are progressively reduced substantially immediately following the relevant cutting

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edgem and this reduction continues to the trailing edge of the segment” (column 3, lines 34-39).

Also according to Beaty et al, “FIG. 4 shows a set of contours, on successively smaller diameters proceeding toward the bottom end of the implant 10 due to the fact that the bottommost portion 30 of the self-tapping segment of the implant tapers to a smaller size toward the extremity 23 of the bottom end 21” (column 3, lines 43-48). As evident from FIG. 4, this taper is a conical taper.

Beaty et al does not teach that the radius between the leading and trailing ends of the thread segment is a curved part. Wagner et al teaches “FIG. 1 shows a self-tapping implant at 10.

Implant 10 has a generally elongated cylindrical configuration and includes a coronal end 12, a tapping end 14 oppositely disposed from the coronal end, and a threaded middle section 16 disposed between the two ends” (column 2, lines 36-40). “As best seen in FIGS. 1 and 3A, flutes 40A, 40B, and 40C form a cavity 48A, 48B, and 48C that extends into body 26. Each cavity has a curved configuration with a somewhat concave shape” (column 3, lines 28-31). “Each flute 40A, 40B, and 40C includes a primary cutting edge or surface 50A, 50B, and 50C, respectively. This cutting edge extends along one side of the flute. FIG. 2 shows a generally smooth transition from edge to the cavity. Preferably, the cavity does not have any abrupt corners or edges and hence is smooth. The smooth transition from the cutting edge to the cavity and additionally within the cavity itself help to direct a smooth flow of bone chips away from the cutting edge and along the cavity. In turn, the insertion torque required to insert the implant is reduced” (column 3, lines 56-61). Beaty et al and Wagner et al teach the implant as claimed except for the cutting angle being within a range of 15-40°. It would have been obvious to one having ordinary skill in the art at the time of the invention to design the remaining thread part such that it merges into a radiused or curved part and to make the point angle less than 20° as stated in Claims 2, 4, 9 and 10,

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since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, (220 F. 2d 454) 105 USPQ 233.

Allowable Subject Matter

Claims 6 and 14-17 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Candice C. Melson whose telephone number is (703) 305-8128. The examiner can normally be reached on 8:00am - 4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kevin Shaver can be reached on (703) 308-2582. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-2708 for regular communications and (703) 308-2708 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0858.

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Candice C. Melson, Examiner

July 14, 2003

Handwritten signature of Candice C. Melson in cursive.Handwritten signature of Cary E. O'Connor in cursive.

Cary E. O'Connor
Primary Examiner